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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/802,621

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Pekka Tapio Pessi

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7641

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EXAMINER

FERRIS, DERRICK W

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/802,621	Applicant(s) PESSI, PEKKA TAPIO	
	Examiner Derrick W. Ferris	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/17/2006 has been entered.

Response to Arguments

2. Applicant's arguments filed 1/17/2006 have been fully considered but they are not persuasive. In particular, applicant argues limitations recited in the new claims and not necessarily the previously presented claims. The examiner agrees that the applied reference may not read on the newly added claim 24. As such, please find a new rejection for the above-mentioned claims. In addition, with respect to the previously applied rejection, *Forslow* teaches application layer QoS with respect to application flows, see e.g., column 11, line 55 – column 12, line 34. Also note that RTP is considered part of an application flow level as taught by *Forslow*.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2663

4. **Claims 1-7 and 10** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,609,832 B2 to *Forslow*.

As to **claim 1**, see e.g., figure 2 where a sender may be a mobile 16 and a receiver may be a node attached to the ISP 58 and where the communications network could be either the GPRS network 51 or the IP data network 56. As such, see figure 7 which shows applications flows as a video, audio, and conferencing application flow. Note in figure 7 that the QoS is mapped to the application flow. Thus the applications are subject to “optimization methods” based on the associated application flow. For example, the solution provides a bearer selection and quality of service parameter mapping layer which selects for each application flow at the IP layer the best suited one of a circuit-switched bearer and a packet switch bearer rather than using a multiplexer which would multiplex all the application flows together, see e.g., column 12, lines 11-24. The quality of service signaling protocol is RSVP also shown in figure 7 as part of the system control flow, e.g., see column 10, line 54 – column 12, line 10 and in particular column 12, lines 1-10.

As to **claim 2**, see figure 7 where a description would be the type of application such as audio, video or conferencing.

As to **claim 3**, QoS is optimized since a bearer section and quality of service parameter mapping layer is taught for each application flow, see e.g., column 12, lines 11-35.

As to **claims 4-5**, RTP is taught which is real-time, see e.g., figure 7.

Art Unit: 2663

As to **claim 6-7**, RSVP reserves the session at teach node as taught per the RSVP standard. In particular, the RSVP standard teaches a PATH, RESV, and RESVCONF message.

As to **claim 10**, see similar rejection to claim 1.

5. **Claims 1-4, 6-10, 18, and 20-24** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application 2004/0022191 A1 to *Bernet et al.* ("*Bernet*").

As to **claim 1**, *Bernet* teaches applying application layer QoS, see e.g., paragraph 0011 on page 2. In particular, *Bernet* teaches optimizing the process of data streams coming from an application in nodes between a sender and a receiver in a communication network by applying application layer QoS. For example, see e.g., figure 3 which teaches a sender as sender 92, a receiver as receiver 104 and a communications network as the network between the sender and receiver. In particular, note that some routers apply a routing policy (i.e., optimization). As such, with respect to using at least one quality of service signaling protocol in the communications network, *Bernet* teaches modifying RSVP, see e.g., paragraph 0039 on page 4. With respect to causing the use of said at least one quality of service signaling protocol by said application to mark application specific data streams, *Bernet* teaches using at least application identifiers, see e.g., paragraph 0045 on page 5. With respect to identifying at the nodes of the communication network, on the basis of the quality of service signaling, packets belonging to the data stream of said application, and the type of said packets, the application identifiers are forwarded using at least the RSVP protocol. Finally,

subjecting said packets to optimization methods characteristic of said type is taught since QoS is applied in the network.

As to **claim 2**, RSVP is an example of a QoS signalling protocol.

As to **claim 3**, parameters for optimization are e.g., the fields described for the RSVP protocol.

As to **claim 4**, QoS is applied for each type of application, see e.g., paragraph 0045 on page 5.

As to **claim 6**, RSVP reserves a state at each router that supports RSVP.

As to **claim 7**, see e.g., paragraph 0039 where the RSVP PATH and RESV messages are extended to support application layer QoS.

As to **claim 8**, RSVP is the signaling message.

As to **claim 9**, *Bernet* teaches that either RSVP or DiffServ can be used to support application layer QoS, see e.g., paragraph 0059 on page 6 using e.g., the DCLASS object.

As to **claim 10**, see similar rejection to claim 1.

As to **claim 18**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and RESV messages are extended to support application layer QoS. As the RSVP message contains the application type.

As to **claim 20**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and RESV messages are extended to support application layer QoS.

As to **claim 21**, subjecting said packets to optimization methods characteristic of said type is taught since QoS is applied in the network.

Art Unit: 2663

As to **claims 22-23**, *Bernet* teaches that either RSVP or DiffServ can be used to support application layer QoS, see e.g., paragraph 0059 on page 6 using e.g., the DCLASS object.

As to **claim 24**, see similar rejection to claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 8-9 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,609,832 B2 to *Forslow* in view of “Definition of the Differentiated Services Field (DS) in the IIPv4 or Ipv6 Headers” to *Nichols et al.* (“*Nichols*”).

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) the difference of differences in the claim(s) over the applied cited references;*
- c) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claims 8-9**, for step (a) *Forslow* discloses the limitations in the parent claim.

For step (b) *Forslow* is silent or deficient to the further limitation of supporting DiffServ or the like. In particular, *Forslow* discloses general QoS support and provides an example of RSVP.

Nichols teaches the further recited limitation above at e.g., see the abstract.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Forslow* by also using DiffServ.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation supporting DiffServ or the like. In particular, the motivation for modifying the reference or to combine the reference teachings would be to provide QoS without maintaining a state for each node. In particular, *Nichols* cures the above-cited deficiency by providing a motivation found at e.g., the abstract. Second, there would be a reasonable expectation of success since both references support IP, e.g., see figure 7 of *Forslow*. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 23**, see similar rejection to claim 8.

Art Unit: 2663

8. **Claims 11-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,609,832 B2 to *Forslow* in view of “Efficient Use of Wireless Bandwidth for Multimedia Applications” to *Larzon et al.* (“*Larzon*”).

As to **claim 11**, *Forslow* teaches using RTP packets but may be silent or deficient to RTP header compression, see e.g., figure 7. *Larzon* teaches RTP header compression (i.e., CRTP) at e.g., page 188. Thus the examiner proposes to modify *Forslow* to clarify that CRTP can also be used since CRTP is well known in the art prior to applicant’s invention. Hence examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to use RTP header compression. In particular, one skilled in the art would have been motivated to use RTP header compression for at least the purpose of reducing the probability of losing packets due to errors. *Larzon* teaches the above motivation at e.g., right-hand column on page 188. Examiner also notes a reasonable expectation of success since CRTP is applied to a wireless system.

As to **claims 12-13**, see e.g., column 10, lines 44-45 of *Forslow* where the applied QoS may be implemented in a gateway device (i.e., router).

As to **claim 14**, see similar rejection to claim 11.

As to **claims 15-16**, see e.g., column 10, lines 44-45 of *Forslow* where the applied QoS may be implemented in a gateway device (i.e., router).

9. **Claims 5, 11-17, 19 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2004/0022191 A1 to *Bernet et al.* (“*Bernet*”) in view of “Compressing IP/UDP/RTP Headers for Low-Speed Serial Links” to *Casner et al.* (“*Casner*”).

As such to **claim 5**, *Bernet* discloses the limitations in the base claim.

Bernet is silent or deficient to the further limitation wherein application-specific optimization is used for optimization of an RTP stream. In particular, *Bernet* discloses application level QoS but does not specifically teach RTP as an application, see e.g., paragraph 0045 on page 5.

Casner teaches the further recited limitation above at e.g., the Introduction on page 1.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Bernet* by clarifying that the application is RTP.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to support IP. In particular, *Casner* cures the above-cited deficiency by providing a motivation found at e.g., the Introduction on page 2.

As to **claim 11**, see similar rejection to claim 5 where *Casner* further teaches multiplexing techniques for RTP, e.g., header compression.

As to **claim 12**, the policy enforced routers support QoS, see e.g., figure 3 of *Bernet*.

As to **claim 13**, see e.g., figure 3 of *Bernet* with respect to router 98.

As to **claim 14**, see similar rejection to claim 11. In addition, *Bernet* further supports multiplexing with respect to packet aggregation.

Art Unit: 2663

As to **claim 15**, the policy enforced routers support QoS, see e.g., figure 3 of *Bernet*.

As to **claim 16**, see e.g., figure 3 of *Bernet* with respect to router 98.

As to **claim 17**, see similar rejection to claim 5.

As to **claim 19**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and RESV messages are extended to support application layer QoS.

As to **claim 25**, see similar rejection to claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123.

The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

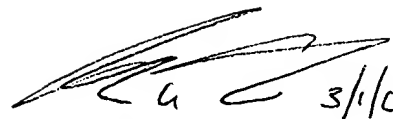
Derrick W. Ferris
Examiner
Art Unit 2663

Application/Control Number: 09/802,621

Page 11

Art Unit: 2663


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3/1/06
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PATENT EXAMINER